

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1-11. (canceled)

12. (currently amended) A stent delivery system, said system comprising:

a catheter comprising a catheter body having a distal end, a proximal end and a lumen;

a balloon disposed near said catheter body distal end;

a stent having a wall comprising struts and connectors forming multiple passageways and further comprising a side hole, said stent disposed over said balloon;

an ultrasound transducer housing having a distal end, a proximal end, and a passage extending ~~along a central axis of~~ through a central portion of said housing between said distal and proximal ends, said housing having a transducer coupled thereto; and

a positioning guidewire at least partially disposed in said catheter lumen, said guidewire passing through said transducer housing passage.

13-22. (canceled)

23. (previously presented) A stent delivery system for use in a body lumen, the body lumen including a main vessel and a branch vessel, the branch vessel including an ostium, the system comprising:

a catheter comprising an elongate catheter body having a distal end, a proximal end, and a lumen;

an expansion device disposed near the catheter body distal end;

a stent having a wall comprising struts and connectors forming multiple passageways and further comprising a side opening, the stent being disposed around the expansion device; and

an ultrasound transducer positioned within the stent and configured to transmit and receive ultrasound signals through the side opening to align the side opening relative to the ostium of the branch vessel.

24. (previously presented) The system of claim 23 wherein the ultrasound transducer is positioned in axial and radial alignment with the side opening of the stent.

25. (currently amended) The system of claim 23 further comprising an transducer housing having a distal end, a proximal end, and a passage extending along a central axis through a central portion of the housing between the distal and proximal ends, the transducer housing having the ultrasonic transducer positioned thereon.

26. (previously presented) A stent delivery system for treatment of a vessel bifurcation, the vessel bifurcation including a main vessel and a branch vessel, the branch vessel having an ostium, the system comprising:

a stent having a wall comprising defining a side opening between proximal and distal ends of the stent; and

an ultrasound transducer positioned within the stent and configured to transmit and receive ultrasound signals through the side opening to align the side opening relative to the ostium of the branch vessel.

27. (previously presented) The system of claim 26 wherein the ultrasound transducer is positioned in axial and radial alignment with the side opening of the stent.

28. (currently amended) The system of claim 26 further comprising an transducer housing having a distal end, a proximal end, and a passage extending generally along a central axis through a central portion of the housing between the distal and proximal ends, the transducer housing having the ultrasonic transducer positioned thereon.

29. (new) A method of positioning a stent having a side opening, the method comprising:
providing a stent delivery system, comprising:

a stent having a side opening; and

an ultrasound transducer configured to transmit and receive ultrasound signals through the side opening;

positioning the stent delivery system in a body lumen;

imagining the body lumen through the side opening with the transducer to locate an ostium of a branch vessel of the body lumen; and

aligning the stent side opening with the ostium.

30. (new) The method of claim 29 wherein the stent delivery system further includes a expansion device, and the transducer is disposed in the expansion device.

31. (new) The method of claim 29 wherein the ultrasound transducer is adapted to rotate relative to the longitudinal axis, and the imaging further comprises rotating the transducer to image a cross section of the body lumen.

32. (new) The method of claim 29 wherein the aligning comprises axially translating the stent.

33. (new) The method of claim 29 wherein the aligning comprises rotating the stent about the longitudinal axis.

34. (new) The method of claim 29 further comprising:

introducing a body lumen guidewire into the body lumen; and

advancing the tranducer over the guidewire and through the body lumen to be near the branch vessel.

35. (new) The method of claim 34 wherein the transducer is coupled to a housing having a passage through which the guidewire passes, the advancing also advancing the transducer housing to be near the branch vessel.

36. (new) The method of claim 29 wherein the stent delivery system further comprises a controller coupled to the transducer for controlling the imaging.

37. (new) The method of claim 29 wherein the stent delivery system further comprises:

a catheter comprising an elongate catheter body having a distal end, a proximal end, and a lumen; and

an expansion device disposed near the catheter body distal end, the stent surrounding at least a portion of the expansion device.